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Vestibular Schwannoma's Resection Surgical Approaches, Advantages and Disadvantages of Retrosigmoid, Middle Cranial Fossa and Translabyrinthine Surgical Approaches

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There are various factors which would determine the selection of surgical approaches in resection of the vestibular schwannoma. Factors like experience of the surgeon, characteristics of the tumor, surgical anatomy and the patient's condition can determine the selection of the best surgical approach for individual cases with vestibular schwannoma. There are different opinions among surgeons about the pros and cons of selecting the surgical approaches for individual patients. This is a brief review on the advantages and disadvantages of three surgical approaches in resection of the vestibular schwannoma [1-4].

In Retrosigmoid approach, possibility of hearing preservation, posterior fossa's wide exposure, seventh cranial nerve's identification at the brain stem in the tumors with small sizes and the possibility to remove the whole tumor at once, are the advantages. Long recovery period, cerebellar retraction, postoperative headache which may appear early after surgery, limited access to lateral IAC because of the labyrinth's anatomical position and the necessity to remove the Intradural transmeatal bone in IAC accessing during surgery, are the disadvantages [5-9].

In Translabyrinthine approach, avoiding the retraction of the brain, IAC exposure entirely, accessing to the vestibular schwannoma tumor within the labyrinth, distal seventh cranial nerve's identification at the fundus and the possibility of combining this surgical approach with some other procedures like reconstructing the seventh cranial nerve, are the advantages of employing this surgical approach. Sigmoid sinus injury risk, long surgery time, impossibility to preserve the hearing ability and requirement for adipose graft from the abdomen, are the disadvantages of employing this surgical approach [10,11].

In Middle cranial fossa approach, lateral IAC's early exposure, being primarily extradural approach and preserving the hearing ability are the advantages. Requirement for retracting the temporal lobe, Inferior section of the fundus, brainstem, and CPA's limited exposure and seventh cranial nerve's position in relation to the vestibular schwannoma, are the disadvantages of employing the middle cranial fossa approach.

It is necessary for the surgeons to have enough knowledge about the surgical anatomy, advantages, and disadvantages of each surgical approach to reach the vestibular schwannoma tumors, to gain best surgical results with lowest surgical complications.

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